

Research Study of River Information Services on the US Inland Waterway Network

1ST INTERIM REPORT

Approved for public release; distribution is unlimited.

Issued by:

via donau – Oesterreichische Wasserstrassen-Gesellschaft mbH

Donau-City-Strasse 1

A-1210 Wien

Tel.: +43 504321 1615

Fax.: +43 504321 1050

Contact Person: Juergen Troegl (juergen.troegl@via-donau.org)

R&D number: 1405-EN-01

D-U-N-S number: 301191081

NCAGE code: 3809N

For the attention of:

**The ERDC-IRO Cooperative Agreement
Manager (CAM)**

Dr. Steven A. Grant

Engineer Research and Development Center

International Research Office (ERDC-IRO)

86-88 Blenheim Crescent

West Ruislip

Middlesex, HA4 7HL

United Kingdom

**U.S. Army International Technology Center –
Atlantic (USAITC-A)**

Fiscal Office

POC: Sandra Gordon

86-88 Blenheim Crescent

West Ruislip

Middlesex, HA4 7HL

United Kingdom

Report Documentation Page				Form Approved OMB No. 0704-0188	
Public reporting burden for the collection of information is estimated to average 1 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Washington Headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington VA 22202-4302. Respondents should be aware that notwithstanding any other provision of law, no person shall be subject to a penalty for failing to comply with a collection of information if it does not display a currently valid OMB control number.					
1. REPORT DATE 2010		2. REPORT TYPE		3. DATES COVERED 00-00-2010 to 00-00-2010	
4. TITLE AND SUBTITLE Research Study of River Information Services on the US Inland Waterway Network				5a. CONTRACT NUMBER	
				5b. GRANT NUMBER	
				5c. PROGRAM ELEMENT NUMBER	
6. AUTHOR(S)				5d. PROJECT NUMBER	
				5e. TASK NUMBER	
				5f. WORK UNIT NUMBER	
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) Engineering Research and ddevelopment Center,International Research Office (ERDC-IRO),86-88 Blenheim Crescent,West Ruislip, Middlesex, HA4 7HL, UK,				8. PERFORMING ORGANIZATION REPORT NUMBER	
9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES)				10. SPONSOR/MONITOR'S ACRONYM(S)	
				11. SPONSOR/MONITOR'S REPORT NUMBER(S)	
12. DISTRIBUTION/AVAILABILITY STATEMENT Approved for public release; distribution unlimited					
13. SUPPLEMENTARY NOTES !st Interim Reports R&D number 1405-EN-01					
14. ABSTRACT The first project period started with efforts to achieve a common knowledge level among the partners. Startup activities comprised the exchange and discussion of the project plan, the Lock Operations Management Application (LOMA) specifications, the River Information services (RIS) center concept via e-Mail and the extranet site. Major results have been achieved during a workshop in Washington DC in August where a review of major documents took place and a meeting with lock operators and the Port of Pittsburgh Commission have been held.					
15. SUBJECT TERMS					
16. SECURITY CLASSIFICATION OF:			17. LIMITATION OF ABSTRACT Public Release	18. NUMBER OF PAGES 9	19a. NAME OF RESPONSIBLE PERSON
a. REPORT unclassified	b. ABSTRACT unclassified	c. THIS PAGE unclassified			

Contents

1	Abstract	3
2	Technical Status	3
2.1	Activity 1, Development of a strategy for inland waterways, RIS and related technologies	3
2.2	Activity 2, Definition of the user requirement and sources of resistance to technology adoption 4	
2.3	Activity 3, Cooperative development of a RIS/LOMA specification.....	7
2.4	Status of collaborative activities	8
3	Business Status	9

1 ABSTRACT

The first project period started with efforts to achieve a common knowledge level among the partners. Startup activities comprised the exchange and discussion of the project plan, the Lock Operations Management Application (LOMA) specifications, the River Information services (RIS) center concept via e-Mail and the extranet site. Major results have been achieved during a workshop in Washington DC in August where a review of major documents took place and a meeting with lock operators and the Port of Pittsburgh Commission have been held.

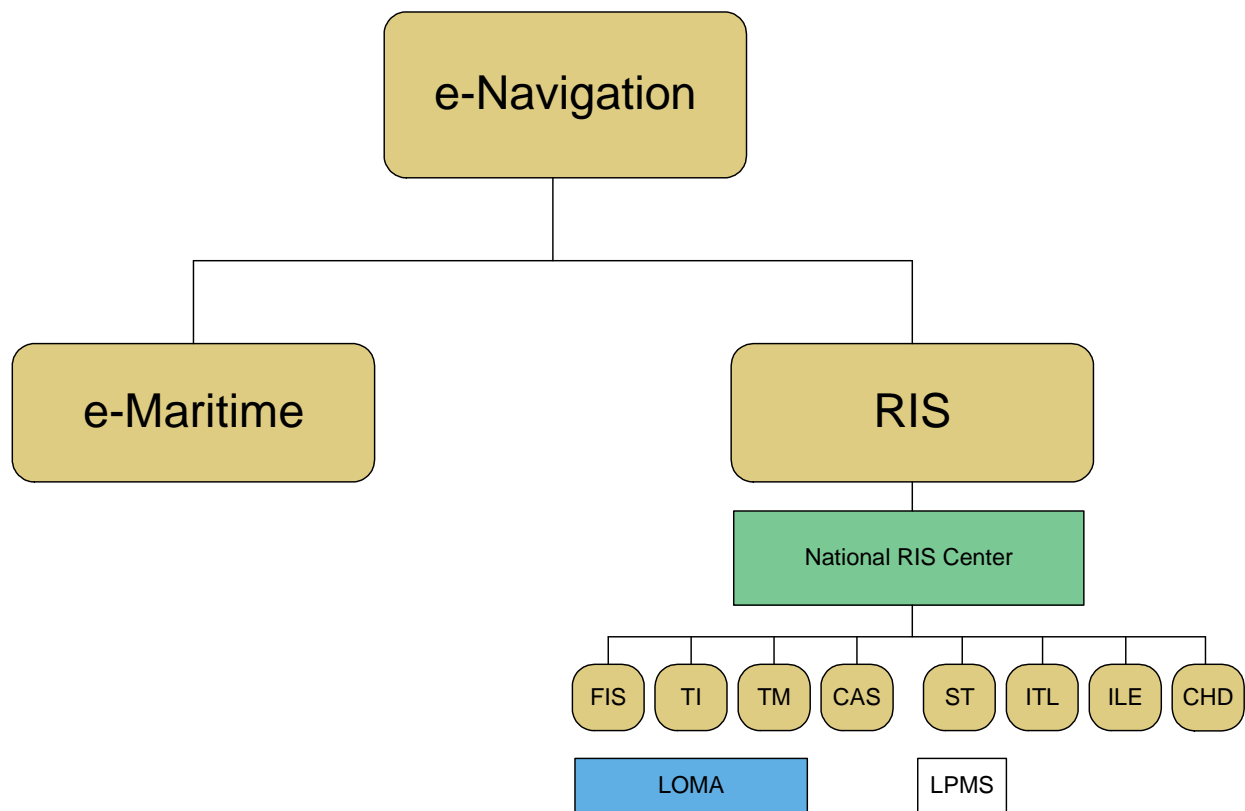
2 TECHNICAL STATUS

The work done in the first reporting periods concentrated on the activities 1, 2 and 3 according to contract attachment 5, article 1. The progress to date on research milestones, as well as the identified challenges/problems is reported in relation to the proposed activities.

2.1 Activity 1, Development of a strategy for inland waterways, RIS and related technologies

Among the first actions in activity 1, LOMA and related initiatives have been structured in order to fit into the global and US e-Navigation strategy. This action was also useful to develop a precise terminology for all RIS-related activities. **e-Navigation** is the global, overall concept of harmonized, electronic based navigation efforts. **RIS** is the set of services supporting safe navigation and efficient transport - under the e-Navigation umbrella. The RIS Center is a physical location where RIS services are coordinated and provided. **LOMA** is a specific RIS application being developed by the USACE which is capable of providing Traffic Information services, Traffic Management – more specifically lock management – services and by the integration of the Automatic Identification System (AIS), Real Time Current Velocity meters (RTCV) and hydro/meteorological data along with Fairway Information Services (FIS).

Inputs to the US e-Navigation strategy have been given and will be extended during the project.



FIS: Fairway Information Services; TI: Traffic Information; TM: Traffic Management; CAS: Calamity Abatement Service; ST: Statistics; ITL: Information for Transport Logistics; ILE: Information for Law Enforcement; CHD: Waterway Charges and Harbor Dues

2-1: classification of US e-Navigation efforts

Potential synergies between LOMA and LPMS have been identified and discussed. Also the potential benefits resulting from the future introduction of an electronic cargo reporting system have been identified.

Under activity 1 also preparations for the foreseen common RIS presentations at the American Society of Civil Engineers (ASCE) Coastal, Ocean, Ports and Rivers Institute (COPRI) conference on November 13 and 14 in Memphis TN and the e-Navigation Conference on November 16 in Seattle WA have been made.

2.2 Activity 2, Definition of the user requirement and sources of resistance to technology adoption

Main activities were the common discussion and clarification of LOMA user requirements. Special focus was on the question of interfacing between LOMA and existing USACE lock performance databases, the Lock Performance Management System/Operation and Maintenance of Navigation Installations (LPMS). While from an organizational aspect a full integration of LPMS functionalities seems very difficult, it became clear that from the user point of view and also from the technical standpoint this integration shall be preferred compared to keeping separate systems with limited data exchange. During interviews with

lock operators a common Graphical User Interface (GUI) has been stated as top priority. As the discussion regarding LOMA – LPMS is rather complex and still ongoing, LOMA 1.0 will not comprise an integration of LMPS into LOMA.

A decision on the final question of system integration is considered as a major item to success of the system and shall be made as soon as possible to avoid delays in system implementation and additional costs.

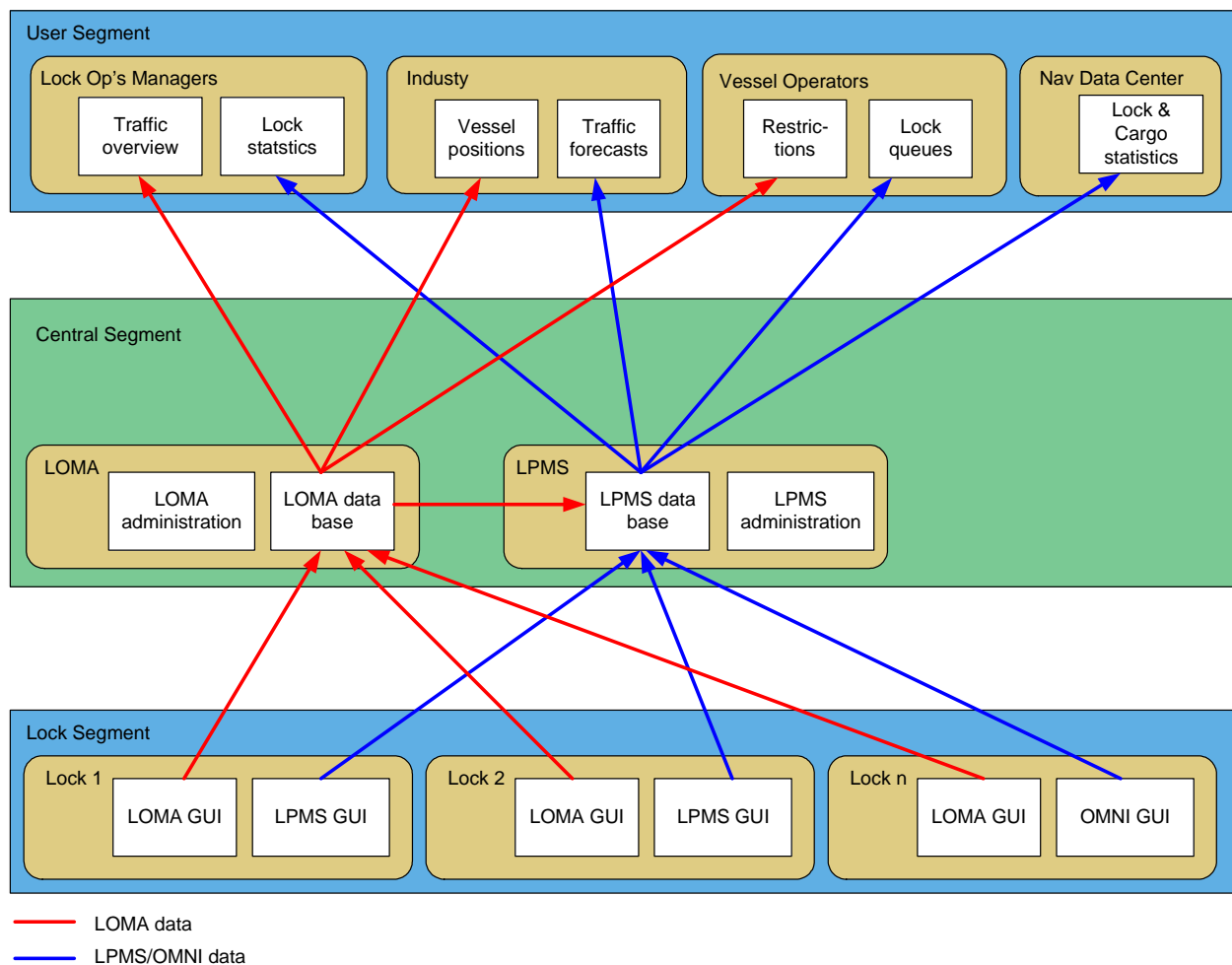


Figure 2-2: separate implementation of LOMA and LPMS

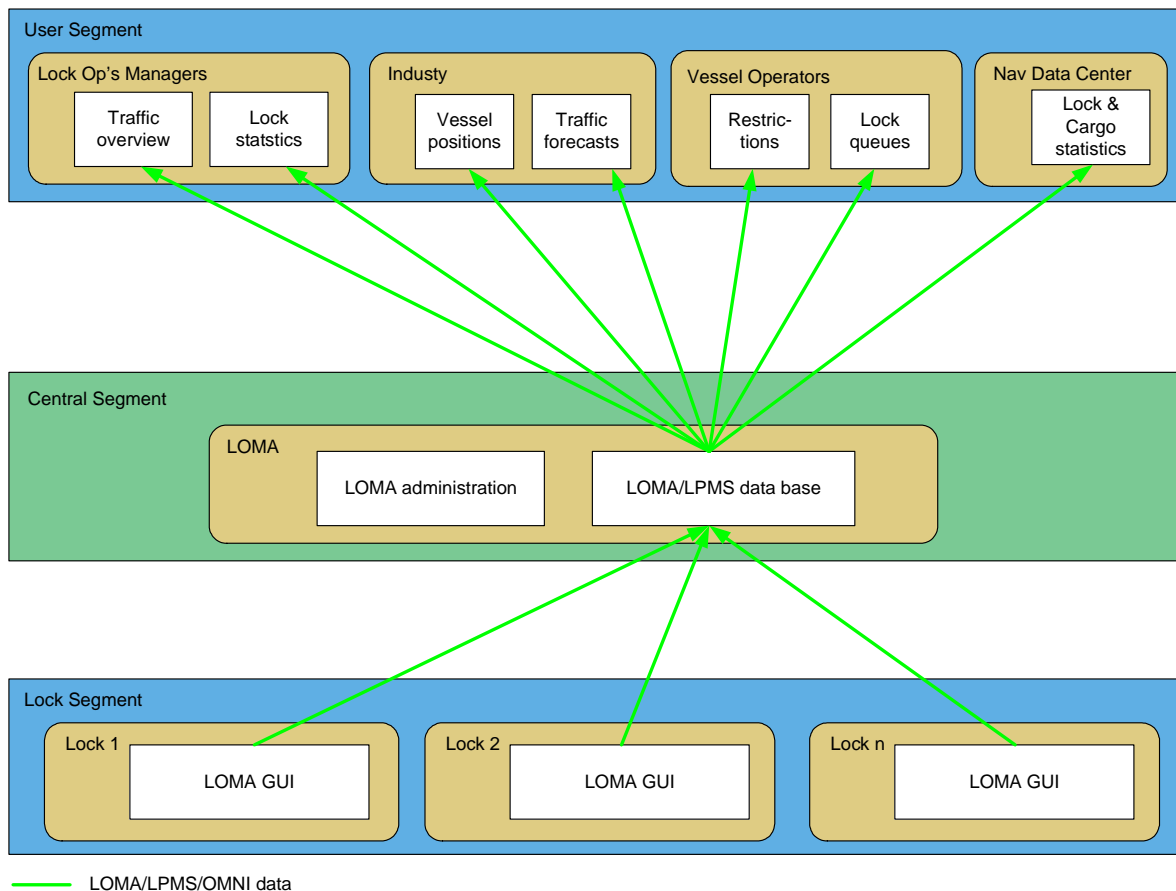


Figure 2-3: integrated implementation of LOMA and LPMS

Another major item was the development of the scope for the planned US RIS Center.

The RIS Center is planned as central point for RIS operation and acting as single point of access to provided services. It shall be first point of contact for all related stakeholders both from Industry and from Government. Therefore the provision of a so called "RIS Portal" has been identified as an integral part.

The RIS center shall further link the USACE districts and interface systems and services outside the RIS environment like similar systems in the maritime field.

It is recommended to also concentrate all activities related to marketing of RIS, further development of RIS in the US and standardization efforts under the umbrella of the RIS Center.

As the added value of RIS is also appreciated by the Industry, it is envisaged that the RIS Center shall be implemented in robust partnership with the Industry preferably in a PPP model.

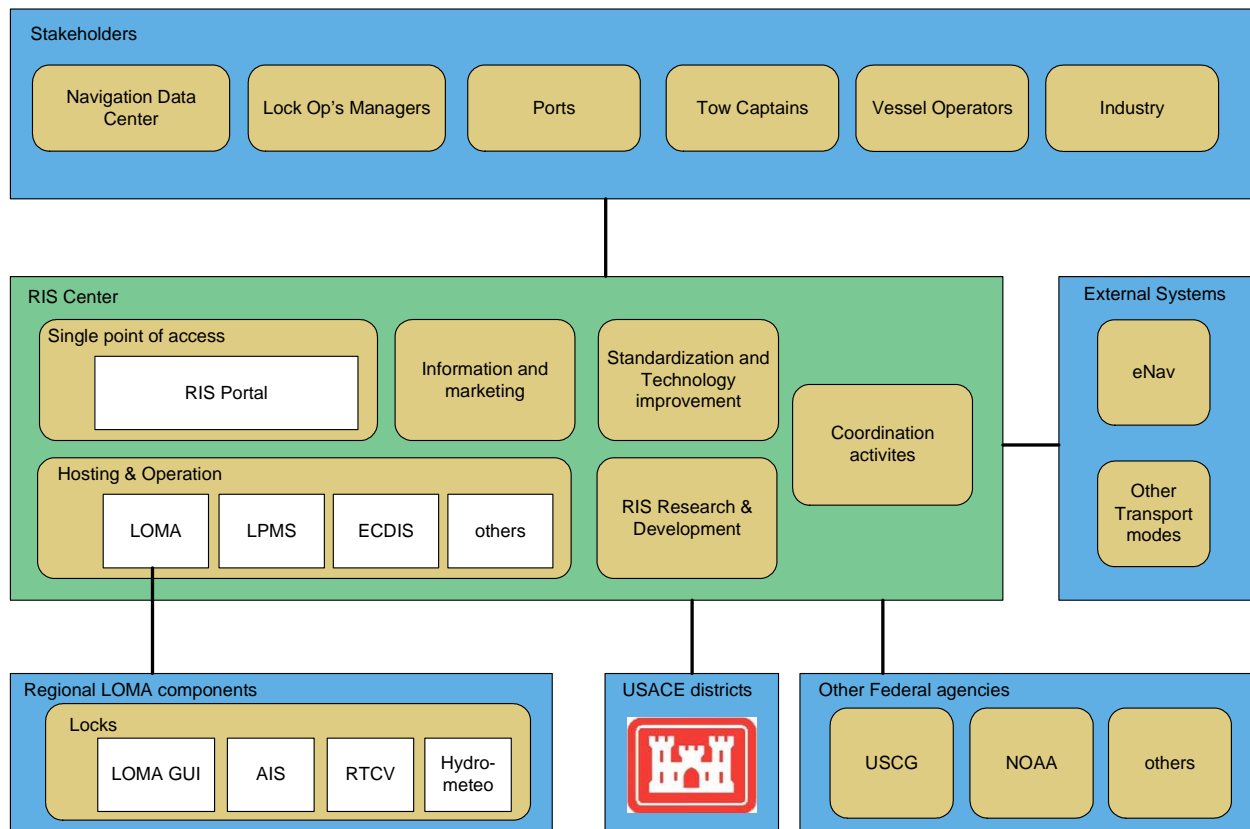


Figure 2-4: tasks and link of the RIS portal

Discussion with stakeholders from the Port of Pittsburgh Commission concluded that the LOMA initiative with the foreseen set of services and the provision of RIS Portal through a central RIS Center is supported and appreciated.

In order to serve all needs and to allow for additional business related services, the availability of a broadband wireless internet access is seen as a major requirement from the Industry user's point of view.

2.3 Activity 3, Cooperative development of a RIS/LOMA specification

Main achievements were the common review and itemization of the LOMA 1.0 Phase II and III requirements. Focus was on the detailing of the requirements for the LOMA GUI and the AIS functionalities. Further items for future detailing of the central functions like user rights management, system monitoring or backup and restore. Connected to those questions is the integration of LOMA in the USACE IT environment, respectively the future setup of the RIS center. Also the exact specification of the system availability has to be finalized for LOMA 2.0. With the given availability of the telecommunication network, it has to be decided further if redundant infrastructure is needed to provide the necessary availability for the operators on the locks.

2.4 Status of collaborative activities

The following collaborative activities have been made during the reporting period:

- Technical Workshop
 - Time: August 30 and 31, 2010
 - Location: Washington DC
 - Participants
 - USACE
 - W. Jeff Lillycrop
 - Brian H. Tetreault
 - James E. Clausner
 - via donau
 - Juergen Troegl
 - Purpose
 - Update on project status
 - LOMA user requirements
 - LOMA requirement specification
 - RIS center scope
 - e-Navigation strategy
- Interviews with stakeholders
 - Time: September 1 and 2, 2010
 - Location, Pittsburgh PA
 - Participants
 - USACE
 - Brian J. Tetreault
 - Richard C. Lockwood
 - Don Zeiler
 - Port of Pittsburgh Commission
 - James R. McCarville
 - via donau
 - Juergen Troegl
 - Purpose
 - Evaluation of lock operator workplace
 - Evaluation of current LPMS capabilities
 - Discussion of LOMA requirements with lock operators
 - Discussion of LOMA requirements with port representative
 - Discussion of RIS Center concept with lock and port representatives
- Wrap-Up session
 - Time: September 3, 2010
 - Location: Washington DC
 - Participants
 - USACE
 - Brian H. Tetreault
 - via donau
 - Juergen Troegl
 - Purpose
 - Summary of findings
 - Agreement on next steps

3 BUSINESS STATUS

The following tables provide an overview of the resources spent to date in comparison to the numbers given in the Agreement.

Phase	Project Month	Amount spent	Amount planned	Deviation
1st Interim Report	4	19,210.54	30,677.00	-11,466.46
2nd Interim Report	7		46,954.00	
3rd Interim Report	10		22,677.00	
4th Interim Report	20		47,232.00	
Final Report	24		8,000.00	
Total		19,210.54	155,540.00	-11,466.46

current reporting period

Table 3-1: Resource overview

Phase	Project Month	Labor Costs	International Travel	Domestic Travel	Indirect Costs	Amount spent	Amount planned	Deviation
1st Interim Report	4	7,890.23	5,129.80	1,866.42	4,324.09	19,210.54	30,677.00	-11,466.46
2nd Interim Report	7						46,954.00	
3rd Interim Report	10						22,677.00	
4th Interim Report	20						47,232.00	
Final Report	24						8,000.00	
Total		7,890.23	5,129.80	1,866.42	4,324.09	19,210.54	155,540.00	-11,466.46

current reporting period

Table 3-2: Detailed resource overview

GENERAL COST CATEGORY DESCRIPTION	TOTAL PROJECT COST PLANNED	TOTAL PROJECT COST SPENT	PER CENT SPENT	PER CENT PROJECT TIME
Direct Costs				
Labor Costs	70,176.00	7,890.23	11.24	16.67
International Travel Costs	26,950.00	5,129.80	19.03	16.67
Domestic Travel Costs	19,790.00	1,866.42	9.43	16.67
Indirect Costs	38,624.00	4,324.09	11.20	16.67
Total Costs	155,540.00	19,210.54	12.35	16.67

Table 3-3: Deviation of resources

It can be seen, that the Labor costs and Indirect costs are behind the estimation. This is due to the fact that the main activities have started later than estimated. As the number of meetings in the US has been carried out according to the original schedule the travel costs are within the estimations. From today's point of view no special adjustment measures are considered necessary.